

3.

Purified and isolated nucleic acid is provided which encodes a transferrin receptor protein of a strain of *Haemophilus* or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce peptides free of contaminants derived from bacteria normally containing the Tbp1 or Tbp2 proteins for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection. Also provided are recombinant Tbp1 or Tbp2 and methods for purification of the same. Live vectors expressing epitopes of transferrin receptor protein for vaccination are provided.